

# Energy and Power Innovation Centre (EPIC)

Mohawk College

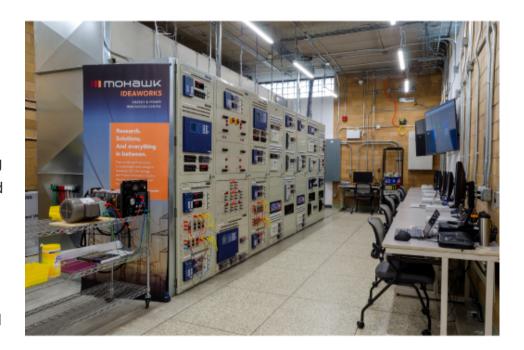


# **ABOUT EPIC**

The Energy & Power Innovation Centre (EPIC) provides expertise and facilities to support Canadian companies with their operational challenges with a particular focus on energy and resource management. EPIC also supports utilities and electrical companies with developing new solutions, as well as training in state-of-the-art facilities.

EPIC is also home to the Energy & Power Technology Access Centre (TAC), a national resource for the Canadian manufacturing and agri-food sector. As a TAC, EPIC helps companies who would like to adopt energy technologies that can reduce operating costs throughout the manufacturing process and/or de-risk the implementation of new technologies.

The cross-functional research team - which includes EPIC applied research staff, dedicated co-op students and Engineering Technology Faculty members- works collaboratively with the Sensor Systems and Internet of Things (IoT) Lab, the Centre for Climate Change Management, the Additive Manufacturing Innovation Centre (AMIC), and the mHealth & eHealth Development and Innovation Centre (MEDIC).



Caroline Substation Protection & Control Lab













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# RESEARCH AND INNOVATION EXPERTISE

#### **EXPERTISE**

- 1. Energy
- 2. Renewable energy
- 3. Energy conservation and efficiency
- 4. Energy planning
- 5. Protection and Control
- 6. Industrial communications
- 7. Automation
- 8. Data acquisition
- 9. Microgrids

### Previous Research Projects

- Development of an online energy tool to provide a regional and community level automatic data for First Nations to better understand their energy-related opportunities
- Development of a short circuit brush finder for Printed Circuit Board (PCB): reverse engineering and quality control; including PCB design and 3D case printing
- Create an advanced case study and training guide to demonstrate new software tool applications for electrical protection relay testing, individual and system-based.
- Performance validation for new artificial intelligence (Fuzzy Logic) controller vs traditional PID controller using a lab testbed, as well as replicating an industrial process using realtime simulation.
- Mechanical and electrical fault case test-bed for electric motors.
- Performance validation and modelling of Mohawk College Net Zero building solar thermal water system.
- Automation and remote monitoring support for a waste heat recovery pilot plant for reducing natural gas consumption in commercial buildings.

